CANRON NEWS

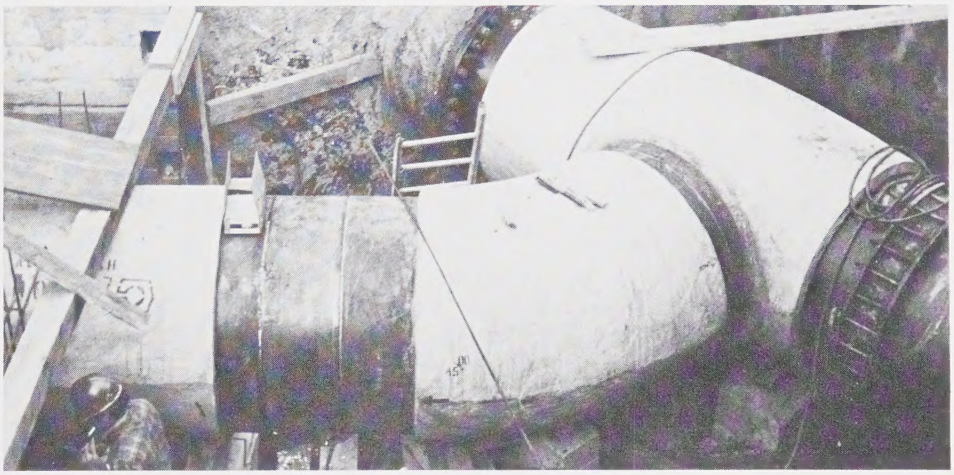
CANRON LIMITED 1121 PLACE VILLE MARIE, MONTREAL 113, P.Q.

OCTOBER 1971
VOLUME 4, NUMBER 2

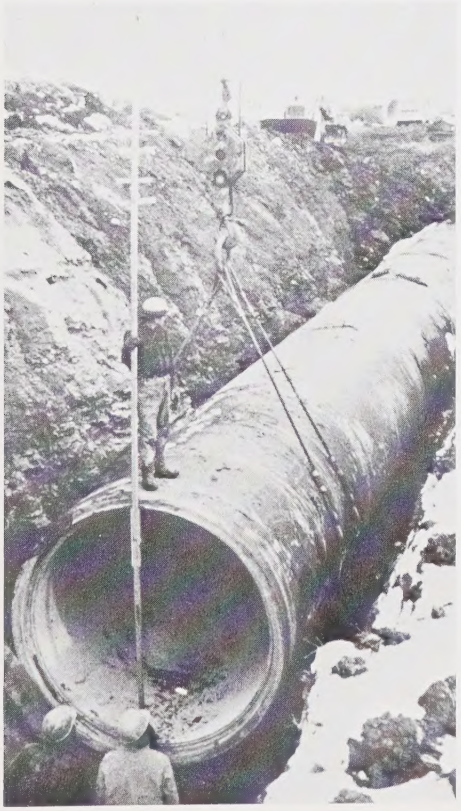
90" diameter pipe for Hamilton

It's the largest prestressed concrete pressure pipe ever made in Canada. Its inside diameter is 90 inches, and the outside diameter measures over 102 inches. Each 16-ft. length of it weighs 21 tons, and it took an 80-ton Manitowoc Crane to unload and install it on a project that eventually will double the City of Hamilton's present water supply capacity, now running at some 100 million gallons a day.

Canron's Pipe Division supplied 6500 ft. of this 90" Hyprescon Prestressed Reinforced Pressure Pipe; 12,000 ft. of 48" pipe; and 1700 ft. of 78" pipe called for in the first two contracts, valued at more than $1.5 million.



At the connection to Hamilton's existing water filtration plant, special sections of Hyprescon pipe from Canron's Pipe Division, Rexdale, were welded into place.



LARGEST EVER — This 90-inch Hyprescon Prestressed Reinforced Concrete Pressure Pipe, being lowered into position by an 80-ton crane, is the largest of its kind ever made in Canada. It is being used in a line that will eventually double the City of Hamilton's present water supply capacity, now rated at a million gallons a day. Each standard 16-ft. section of this pipe weighs 21 tons.

Later, for the same project, Canron received an order for 2200 ft. of 36" prestressed concrete pipe; and recently, Canron was low bidder on a tender for 9000 more feet of 48" pipe.

Delivering and installing the large diameter pipe was a formidable assignment. Each 16-ft. section made a truckload — so wide that the transports had to have special permits for road travel.

Running the pipeline under Red Hill Creek was accomplished by diverting the creek, laying the pipeline halfway across the bed of the stream, channeling the creek back over the installed section, and then going ahead with the line.

Then there was a garbage dump section. Here, the foundation was poor indeed, and to provide a solid bedding, a concrete mat was installed on timber piles.

Another obstacle was a 12-ft. box culvert. To pass the 48-ft. section of pipe beneath the culvert, the installation contractor, Aldershot Equipment Rentals of Burlington, used 8-ft. lengths of pipe, which were jacked into place with a 100-ton jack.

For right-angle changes in direction, three 30° elbows were used, with 30 yds. of concrete later poured at these bends to serve as thrust blocks.

For the first step in the Hamilton project — a 20-million-gallon cell for a 100-million-gallon reservoir — pipe deliveries are now complete, and this section is expected to go into service this year.

Canron Foundry Division

Second in a series of feature articles about Canron's diversified activities, by product groups.

Canron foundries, which employ some 850 people in Toronto, Hamilton, St. Thomas, New Liskeard and Cobalt, Ontario, are headed by General Manager John Gandy, who reports to Frank E. Miller, Group Vice-President, Pipe and Foundry Operations. In New Liskeard and Cobalt, the foundries are known as the Wabi Iron Works Limited. Sales last year of Canron's foundry products were approximately $23 million. In the foundry industry today, heavy expenditures are involved in the installation and maintenance of equipment for air pollution abatement. Costs are large enough, in fact, to force many small foundries out of business; but for its part, Canron is successfully absorbing a $1 million anti-pollution program. By 1972, with large initial outlays no longer needed, Canron should be meeting all the required standards for cleaner air.

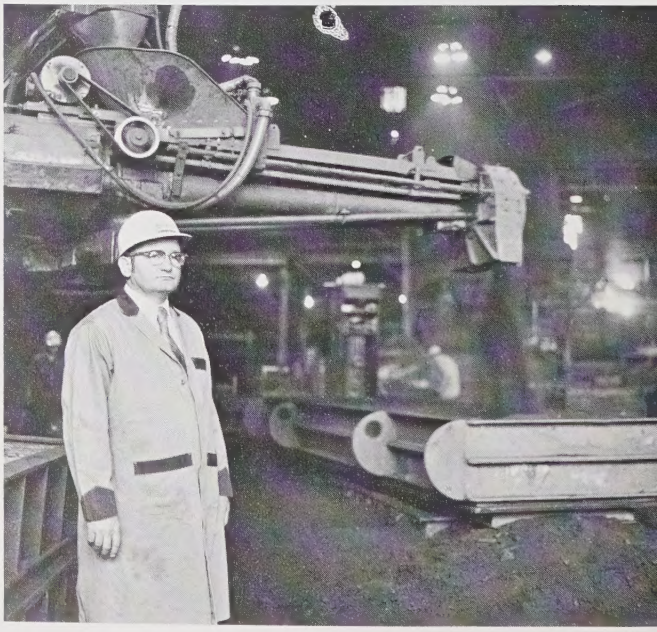
John Gandy estimates that capital costs and operating expenses for pollution abatement are at present adding from $1 to $4 per ton to the cost of finished goods in the foundry industry. To remain competitive the Foundry Division has been searching for more efficient techniques, studying new machinery, new plant layouts, new products and new markets. As Mr. Gandy remarks "Today, there is lots of room for innovators."

Not that Canron foundrymen have been hiding their heads in a sand casting-mould, by any means. Canron keeps abreast of new developments in many ways, and relies to a considerable extent for industry news upon its memberships in the Grey and Ductile Iron Founders' Society, the American Fondrymen's Society, and the British Cast Iron Research Institute.

Canron's foundry facilities are exclusively devoted to cast iron — but to cast iron in many forms, each metallurgically engineered to yield different combinations of hardness, tensile strength, wear resistance, corrosion resistance, machinability and other properties. Canron cast irons cover the full range of modern iron and iron alloy compositions; they include grey iron, chilled iron, ductile iron, acicular iron, high chromium iron, the Ni-Resist and Ni-Hard nickel alloys, and highly abrasion-resistant chromium/molybdenum alloys.

Above left:- John Gandy (left) General Manager of the Foundry Division and Frank Miller, Group Vice-President, at the division's Toronto head office.

Above right:- Bob Hawkins, Comptroller (left) and Tom Toomes, Manager of Marketing Services, Toronto, examine stock of tunnel liner segments.



Right:- Alec Bain, District Manager, Hamilton Operations, beside Speedslinger pouring sand in mould.

Top left:- Ladles are filled with molten iron from the Burlington Street 50 ton per hour capacity cupola furnace behind Plant Superintendent Ernie Wakely.

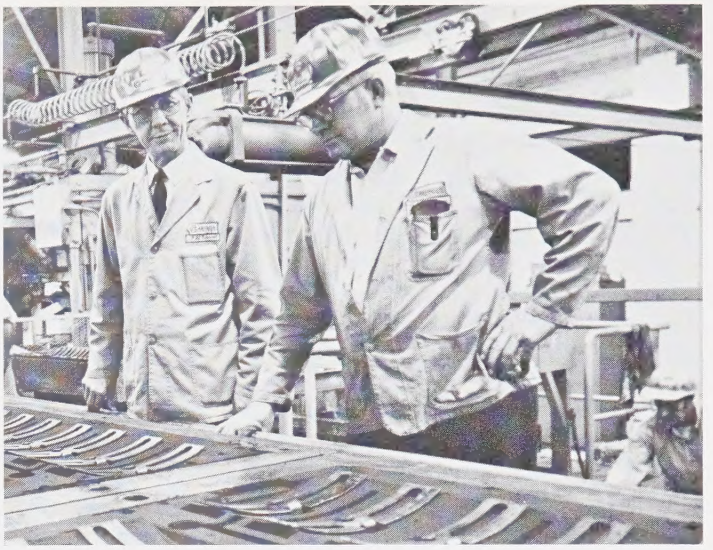
Center left:- Robert Lacoste, Stuart Street Works Manager holding pulp grinding plate.

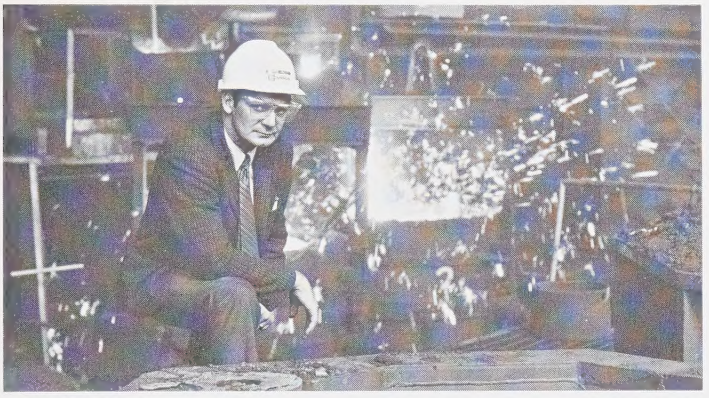
Bottom left:- Bill Burton Sales Manager, Steel Mill Castings (left) with Doug Austen, Assistant Sales Manager, at a customer's steel ingot pouring line using Canron moulds.

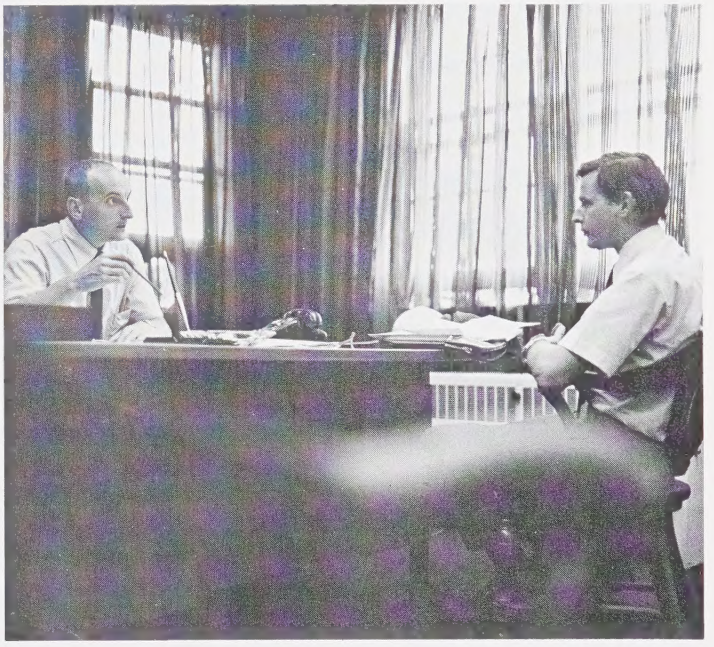
Top right:- Harry Wood, St. Thomas Plant Manager (left) and Lorne Helmer, Moulding Shop Supervisor stand behind a section of the plant's automated casting line.

Center right:- Doug Whittle, District Manager, Wabi Iron confers with Barry Davies Canron Corporate Metallurgist.

Bottom right:- I. W. Preboy, District Sales Manager, Wabi Iron points out features of Wabi's Ni-Hard grinding media.







In production, Canron may be unusually receptive to innovations right now — but not at the expense of quality or craftsmanshinp. In the Burlington Street plant in Hamilton, controls are more rigorous than ever. This plant produces ingot moulds and sprue plates used in the steel industry. Iron, specially designed to withstand the intense thermal shock created when molten steel is poured into the ingot moulds, is melted here in the foundry's 50-tons-per-hour cupola furnace. It is then poured into sand casting flasks to produce moulds for 5- to 25-ton steel ingots.

The Stuart Street plant, also in Hamilton, produces stools and special castings up to 1800 lbs. in all iron and iron alloy types. It is equipped with electric arc and cupola furnaces and various moulding processes to meet the requirements for all types of custom, medium run castings. This plant also turns out Domite Laminated Wear plate — a patented product in which highly abrasion-resistant, but brittle, high alloy white iron is bonded to a mild steel backing.

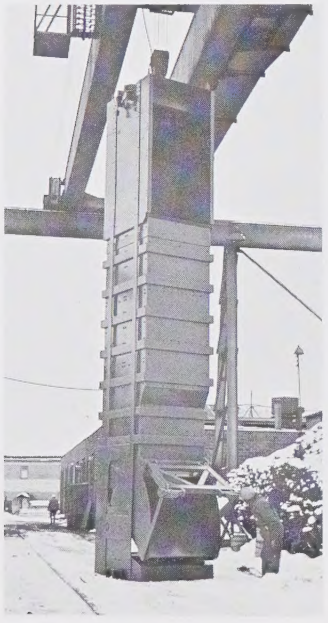
With its ultramodern, automated high-pressure moulding line, the St. Thomas plant is well adapted to long-run, high-production castings in all ASTM grades of grey and ductile iron. Products include fire hydrants, railroad brakeshoes, valve parts, and auto and agricultural machinery components.

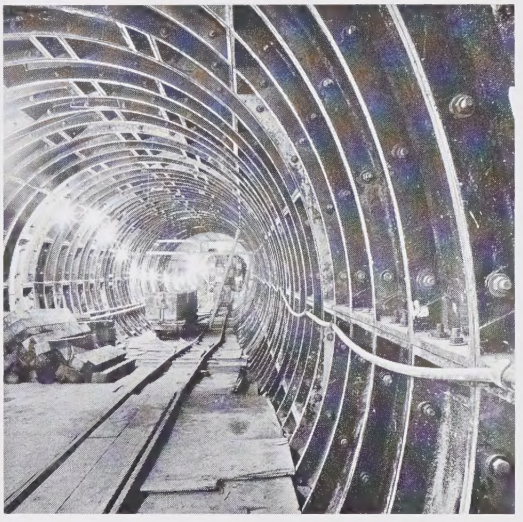
At Toronto, a fully-equipped machine shop handles large castings, such as subway tunnel liners from the Stuart Street plant.

The two Wabi Iron Works plants at New Liskeard and Cobalt enjoy an excellent reputation in the mining industry — going back to the wild days of the silver rush in 1907. Today, the products range from cast Ni-Hard mill liners and grinding billets to ore cars, cages, skips, and loading pockets. Wabi recently introduced a front-dumping ore skip that offers distinct operating advantages over previous models.

Right now, Wabi is expanding its marketing efforts to the west coast. Wabi products will be sold in Vancouver by C. M. Lovsted & Company, a Canron enterprise.

With Canron's anti-pollution program well on the way to completion, and with new products, new processes and new markets to explore, the future — as John Gandy sees it — "looks pretty exciting for Canron's foundrymen."





Top left:- Wabi manufactured front dump ore skip holds significant potential in mining industry.

Top Center:- View of Toronto subway under construction shows Canron tunnel liner segments, bolted to form 16-foot diameter tunnel.

Top right:- Emission control equipment at St. Thomas is part of the division's $1 million commitment to pollution control.

Right:- Castings for body of Canron's new compression type Hydrant are produced at St. Thomas plant.

SYSTEM BUILDING

"System building" is helping to bring down construction costs for Canadian schools — most notably, in Toronto — while at the same time providing the advantages of flexible spaces and ready adaptability to changing needs.

Another example of system building is the handsome (yet extremely efficient) computer centre built in Sheridan Park, Ontario, for Canadian Systems Ltd. Designed by Parkin, Searle, Wilbee, Rowland, Architects, with Ellis Don Ltd. as construction managers, the building provides 145,000 sq. ft. at two levels. The exterior cladding of the building is made of weathering steel which forms its own protection against atmospheric corrosion and thus requires no painting. The owner, Canadian Systems, is a firm set up by Stelco, Eaton's and TRW Limited to share computer services.

In Europe, system building has been successfully used for many years. In Italy, both the "open" and "closed" types have been adapted for hundred of buildings — offices, factories and schools. In England, the principle has been used to build York University, low-rent high-rise apartments, hospitals, schools, and other structures.

Origin of System Building

In Canada, system building got its biggest impetus from Toronto's Study of Educational Facilities (SEF) for the Metropolitan School Board a few years ago. Toronto's SEF has not only attracted continent-wide attention, but also it has prompted construction of "system building" schools in Boston, Kingston and Thunder Bay, Ontario, Prince Edward Island and Vancouver, B.C.

Exercise in Cooperation

Credit for the program is widely spread. The Federal Department of Industry made an intensive study of European practices in 1967, and the Canadian Steel Industries Construction Council asked its members to study the best ways steel could be employed compatibly with all the sub-systems — at a competitive price. The Council retained Robert Halsall and Associates as consulting engineers.

Roderick Robbie, SEF director, and his staff created specifications for 10 sub-systems, all completely compatible. A consortium of Canron and Anthes Steel Products Ltd. worked out the successful and low bid for structural steel. The consortium has completed the structural systems for 23 SEF schools for the Metropolitan Toronto School Board and is now erecting steel on three more schools added to the program after the initial work proved satisfactory to the Board both in cost and performance.

Other firms working with Canron and Anthes on the Educational Building Systems (EBS) were: Lennox, for atmosphere; Johns Manville/Wilson Lighting for lighting and ceilings; Westeel-Rosco Ltd. for division of interior space; Kawneer for vertical skin; H. Griffiths Co. Ltd., plumbing; Executone for electric/electronics; Royal Metal for caseworks; and Heather & Little for roofing.

EBS has also completed one school in Kingston, and the first of two in Thunder Bay is being erected.

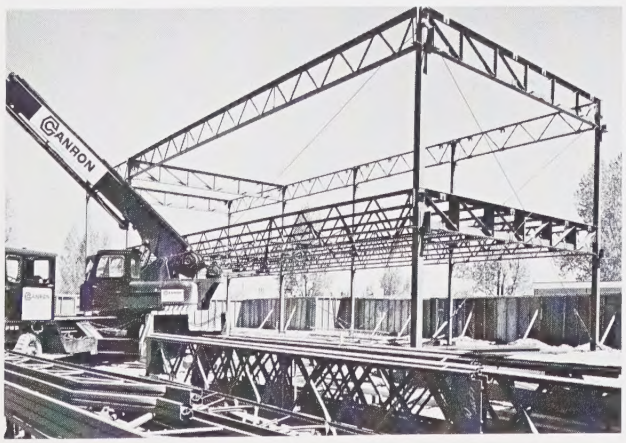
Working outside of SEF and EBS. Canron undertook a project for two schools in Boston. Now nearly completed, these schools are proving to be more economical and more speedily-built than the conventional buildings previously put up in Boston.

In Vancouver, a prototype school designed by Architect R. Howard is under construction. If it is satisfactory, other contracts may be expected.

Top right :- NEW COMPUTER CENTRE at Sheridan Park, Ontario, employs Canron's Structural Systems. "System building" offers economy, spatial flexibility, and faster completion than conventional types of custom buildings.

Bottom right:- MELODY VILLAGE SCHOOL in Etobicoke (Toronto) typifies the first major "open" system in Canada and one of the most sophisticated on the continent. Even with some 400 children working — or enjoying life — in one large open area, visitors are impressed by the relative quiet which prevails. Following its Study of Education Facilities (SEF), the Metro Toronto School Board contracted for some 30 schools, using the "system building" plan toward which Canron and its consortium partner, Anthes Steel Products, contributed. "System building schools" are attracting continent-wide attention — and favorable reactions from taxpayers. Costs are low and construction is speedy.

Bottom left:- To achieve flexibility, clear spans and non-load bearing interior walls are essential. In the SEF schools, roof and floor loads are carried on long "open-web" steel trusses and then down to the ground through supporting steel columns.



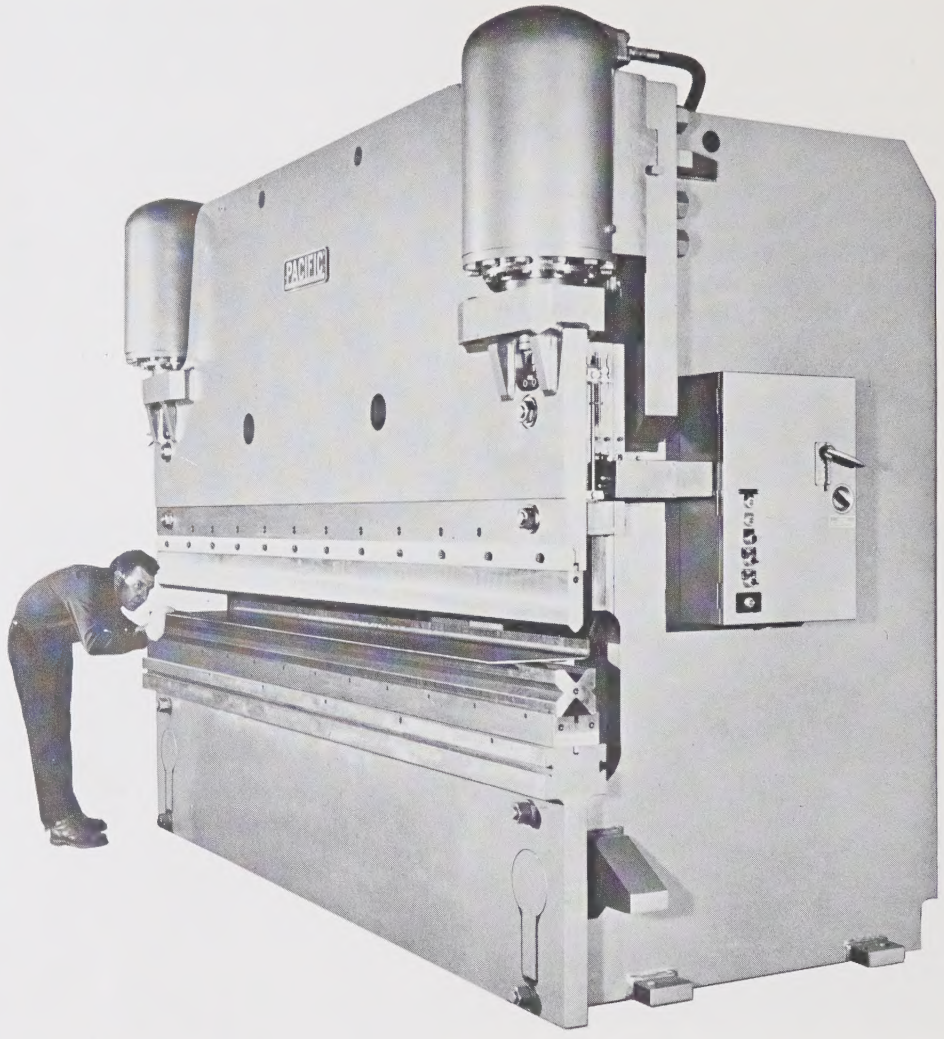
Pacific Press introduces new K-Series

Recently introduced by Pacific Press & Shear Corporation, Inc., of Oakland, California and Mt. Carmel, Illinois, a new line of hydraulic press brakes — the K-Series — not only offers two tonnage ratings previously unavailable, but also a number of major advances in controls and operating speeds.

As described by E. W. Pearson, president of the Canron subsidiary, the K-Series incorporates a selector switch that allows the ram to operate in four different cycles: Continuous run, single stroke, jog, and set-up. This last control allows the operator to move the ram down by stages of 1/1000 of an inch. When the depth limit is reached, the ram will stop at the bottom of the stroke and will not return to the top position. Stroke depth adjustments, in increments of 1/1000 inch, can then be made until the part is bent to the proper angle. This type of control is an important aid to the operator in setting up dies. Optional on the K-Series, an "anti-whip" speed permits the ram speed to be reduced when the machine is bending wide sheet or plate parts. This way, the operator can eliminate unwanted bowing or pre-bending of the part being formed.

All K-Series presses have an amplifier type levelling system and temperature compensation to provide precise level control of the two cylinders. Full-flow 10-micron oil filtration is standard equipment.

The two new tonnage ratings are the 350 and 1750 ton models. Also in the K-Series are tonnage ratings ranging from 100 to 2000 tons and larger.



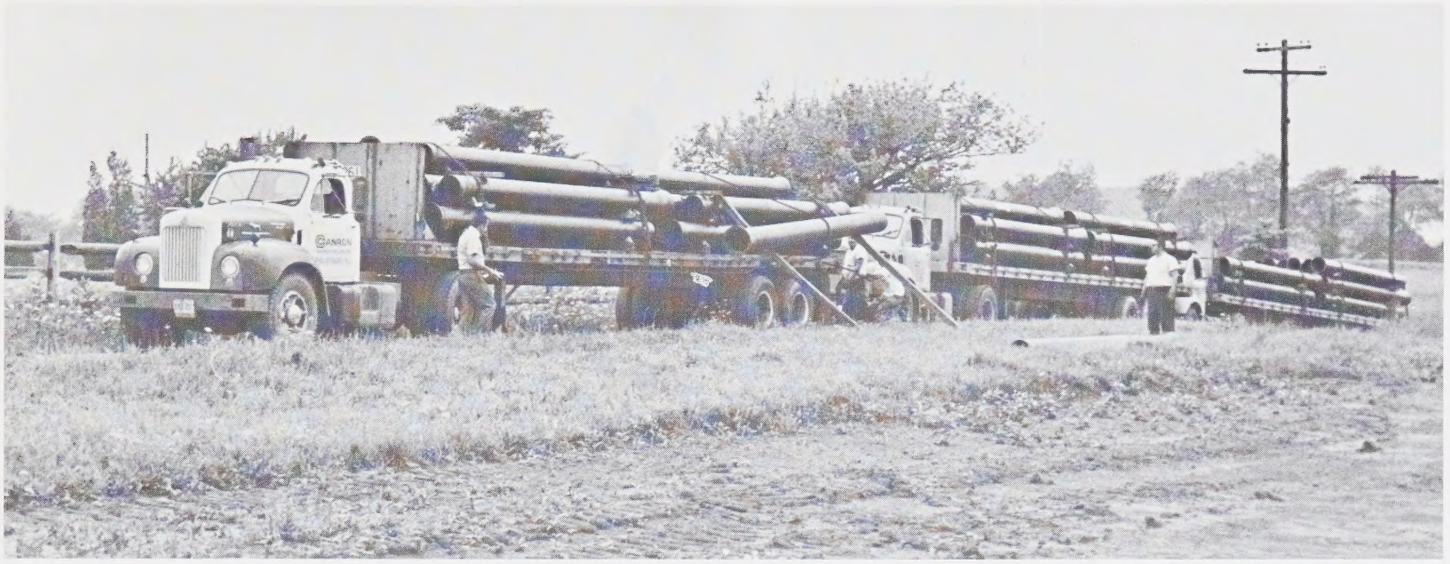
Pacific Press and Shear's new K-Series Hydraulic Press Brake Line, just introduced, provides for the first time press brakes with ratings of 350 to 1750 tons. Other models range from 100 to 2000 tons, and larger. A major feature is a new system of ram control which allows the ram to operate in four different cycles.

New Tamper Machine

Recently added to the line of railroad maintenance equipment from Tamper, Inc., of Columbia, S.C., is a 16-tool Switch Electromatic Tamper featuring air over hydraulic operation with a fully enclosed operators cab for more effective operation.

At right in the picture is John K. Stewart, president of Tamper, discussing the machine with project engineer Charles Stith. The Switch Electromatic Tamper in the background was destined for the Aluminum Company of America.

Intended primarily for track maintenance in the switch area, the Switch Tamper can be applied to any other track maintenance program. It can double as a production tamper, and with attachments becomes a one man operation for surfacing out-of-face, joint peaking, and spotting and smoothing track. All hydraulic valves can be manually operated in case of air failure.

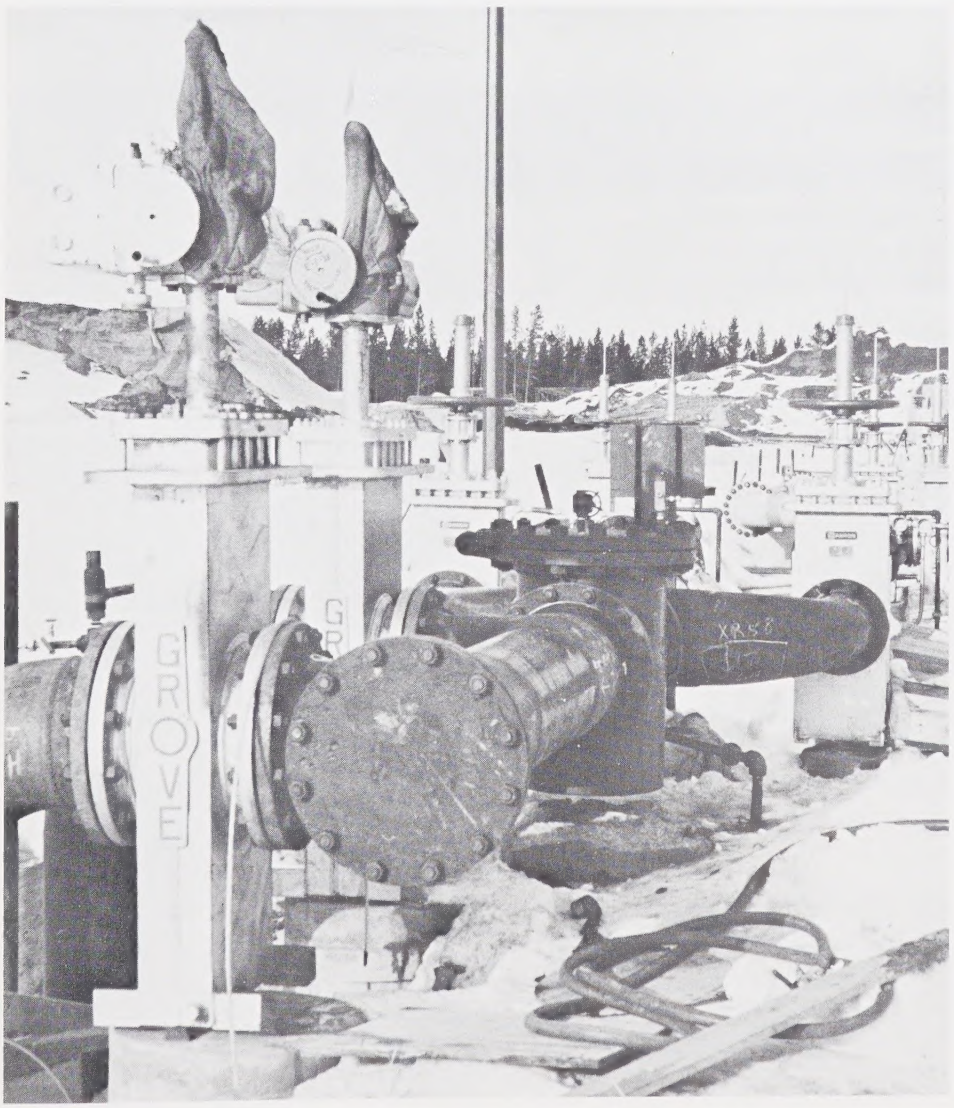


Truck Fleet Bolsters Warren Pipe Sales

With 46 tractors and 100 trailers, complete garages and a staff of professional drivers, Canron's Warren Pipe Division in Phillipsburg, N.J., is in the happy position of being able to deliver its cast and ductile iron pressure pipe on fast schedules, throughout the middle Atlantic and New England states.

The fleet is operated by professional drivers working directly for the division. All support functions are maintained at the Phillipsburg plant, including a traffic department and garages for the repair and overhaul of both tractors and trailers.

Picture above are three 40-ft. units being unloaded by the rope and skid method, at a job site.



Valves for Natural Gas Liquids Pipeline

For rugged service in Northern Alberta, where winter temperatures often sag to 40 below zero, the builders of a 23-mile natural gas/liquids pipeline chose 10" Grove gate valves made in Canron's Trois-Rivières plant. These valves are rated 150 ASA, for working pressures up to 275 psi — water, oil or gas.

Eleven bulldozers started clearing a right-of-way last November for the pipeline, averaging about 3,000 ft. a day. Main construction obstacle was the Athabaska River; the distance from valve to valve at the river crossing was 1400 ft., and it took three weeks for this part of the job.

Built for the Peace River Oil Pipeline Company, the line runs between the Chevron Standard Kaybob III gas processing plant site and the company's main pumping station at Fox Creek. Construction was finished before the Spring break-up in April, and clean-up and final testing was carried out in May and June.

IN NORTHERN ALBERTA, where winter temperatures drop to 40 below, Grove 10" gate valves from Canron's Mechanical Division went into service last winter on a 23-mile nautral gas and liquids pipeline. Picture shows the valve manifolding and automatic instrumentation for the intake pumping station at Chevron's Kaybob III gas plant.

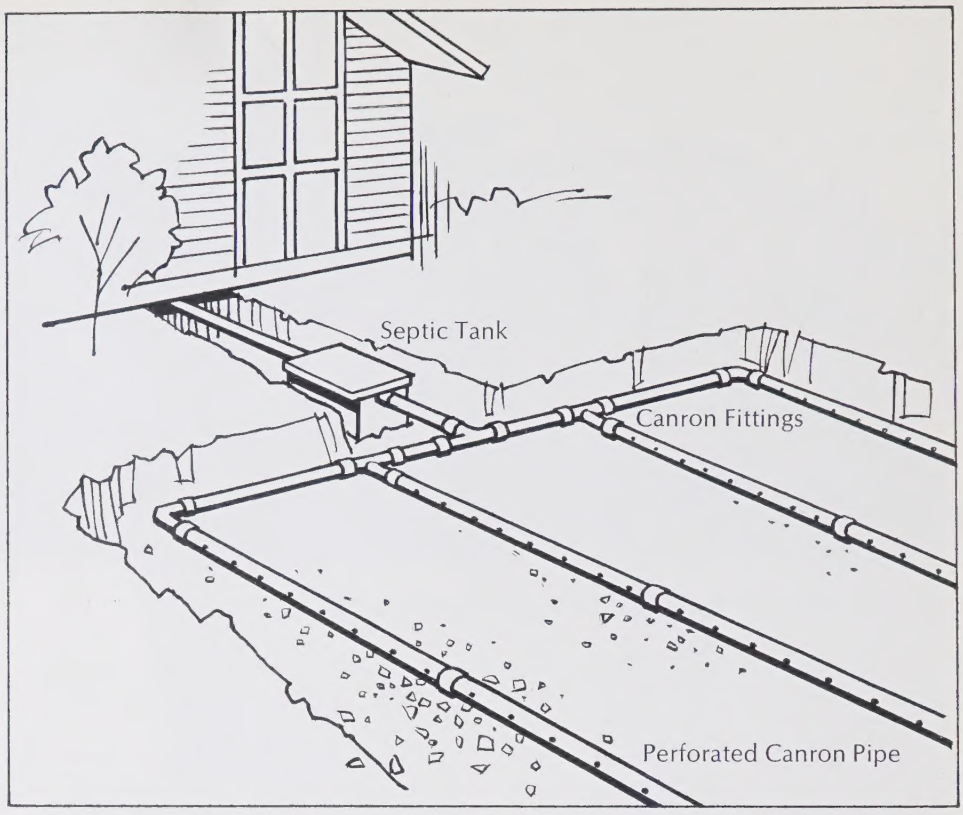
PVC 3-Hole drain pipe

Just about the time that septic tanks, drain pipes, leaching beds—and pollution — had almost overnight become matters for concern, Canron's Plastic Pipe Division came up with a simple improvement in its PVC drain pipe that ensured significantly better distribution of septic tank effluent over sub-surface disposal beds.

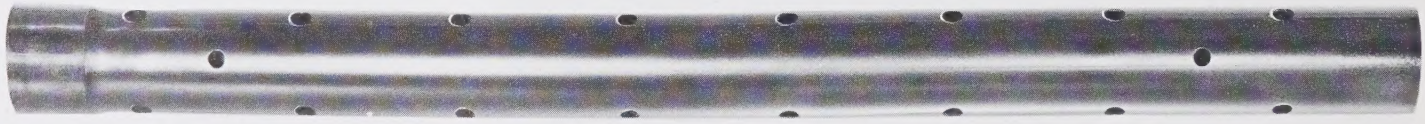
The functions of a septic tank system are to return to the soil the sewage and other liquid household wastes—without polluting the ground water, and without having sewage appear at the ground surface.

There are two main parts to the system. First is the septic tank, to settle out solids and thereby prepare the sewage for absorption by the soil bed. Second, there is the perforated pipe which disperses the sewage over the soil bed.

For many years agricultural drain tile with open joints covered by tarpaper was used. Since seepage was allowed only at the open joints, however, soil could filter into these 1/4" to 1/2" (minimum) openings, and the system could easily become overloaded right at its beginnings.



Basic septic tank system for a household.



View of Canron's PVC drain pipe showing relationship of 5/8" dia. holes and the 1/2" holes which are drilled every 30" along the bottom of the pipe.

Plastic pipe manufacturers introduced a pipe that offered greater promise—a 3" and 4" polyvinyl choride (PVC) or Acrylonitrile Butadiene Styrene (ABS) drain pipe, in 10 ft. lengths, with 5/8" holes drilled opposite one another, every 6 inches, in the 4 o'clock and 8 o'clock positions.

Laid out over the soil bed like a many-pronged fork, these pipes were easy to install, they had high impact resistance, their price was attractively low, and over the short term they were usually equal to the job.

Studies by Canron showed, however, that several disadvantages might occur over the long run. This method encouraged the effluent to flow towards the rear of the soil bed and cause failure of the system at the points furthest away from the septic tank. Effluent and slimes tended to build up on the bottom of the pipe, and in cold weather these sluggish wastes could freeze.

Canron eliminated these problems, and achieved a notably better dispersal pattern over the entire soil bed, simply by drilling a third hole in the PVC pipe — a 1/2" hole every 30 inches at the 6 o'clock position; that is, at the bottom of the pipe.

Simple? Of course. But so was the clothespin, and buttons, and paperclips.

The advantages of Canron's 3-Hole PVC Drain Pipe* are becoming rapidly familiar to Septic Tank Contractors, resulting in a pleasing sales curve for the product.

*Patent pending

CANRON LIMITED

DIVISIONS: Eastern Structural, Electrical, Foundry, Mechanical, Pipe, Plastic Pipe, Railway, Western Bridge.
SUBSIDIARIES: Canron Inc., Warren Pipe Division, U.S.A.; Extruded Plastic Products Limited; Matisa Matériel Industriel S.A., Switzerland; Northern Resins, Limited; Pacific Press & Shear Corp., U.S.A.; Railway & Power Engineering Corporation; Tamper, Inc., U.S.A.; Tamper (Australia) Pty., Ltd.; The Wabi Iron Works, Limited.

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CANRON NEWS

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JULY 1971 – VOLUME 4, NUMBER 1

Steelwork Topped off on Toronto Skyscraper

Topping-off ceremonies for Commerce Court West, showpiece of the $100 million development in downtown Toronto by the Canadian Imperial Bank of Commerce, were held April 16. The building is the tallest in the Commonwealth; it has 57 storeys and rises 784 feet.

Competitive bids for the fabrication and erection of structural steel for Commerce Court West were called in May 1969. Canron and Dominion Bridge, in a joint venture bid, were awarded the contract a month later. By October, 400 men at the Toronto plants of the two companies had started to fabricate 33,000 tons of structural steel into 13,000 shapes for the tower's grillages, columns and beams. Another 100 men, ironworkers, riggers, welders and derrick operators, went to work on the site. The first of 24 grillages, weighing up to 135 tons each, was installed in December 1969. The first of the 35-ton 16-foot base columns was erected onto its base plate two months later. Subsequently, 672 spandrel beams, 56 feet in length, were hoisted into position. Twelve of these unusually long beams frame each floor. They will help provide unobstructed views from all sides for the tower's office tenants.

Steelwork for Commerce Court West, said to be the highest building in the Commonwealth, at 784 feet, was completed April 16 by the joint venture of Canron and Dominion Bridge. The $100 million office, banking and shopping complex, located at King and Bay Streets, Toronto, is owned by the Canadian Imperial Bank of Commerce.

Last steel beam is swung into place during topping-off ceremony for 57-storey Commerce Court West.

Teamwork by Joint Venture workers on the site and in the fabricating plants, sequential steel deliveries and extensive use of semi-automatic welding equipment, enabled one floor (24,500 square feet) to be erected every five days. By November 1970, steelwork had been completed beyond the 476-foot height of the Bank's existing head office building. Built in 1930, it was the Commonwealth's tallest building at that time. By last April, the new tower had soared higher than the nearby 740-foot high Toronto Dominion Tower. Two weeks later, the men of Joint Venture were ready to top off Commerce Court West, now an imposing new landmark on Toronto's skyline.

cont'd►

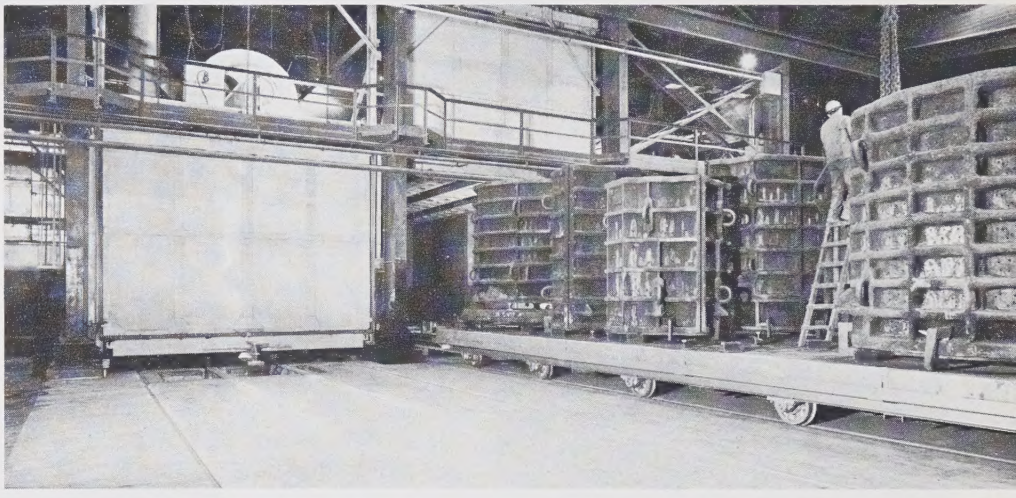
Some 170 guests attended the colourful ground-level ceremony which preceded the actual topping off. It was co-hosted by Canron President, Howard J. Lang, and Dominion Bridge President, MacKenzie McMurray. Special guests included Hon. W. Darcy McKeough, Ontario's Provincial Treasurer representing Premier William Davis, Martin P. O'Connell, M.P. (Lib. Scarborough East), Toronto Mayor Dennison and Canadian Imperial Bank of Commerce Chairman, Neil J. McKinnon. They signed one of the three last beams to be hoisted and helped decorate it with the Canadian and Ontario flags.

The two other beams were covered with good-luck signatures of construction workers and hundreds of members of the public, many of whom watched the ceremony on closed-circuit television screens installed on site for the occasion.

After the beams had been bolted into place, Joint Venture ironworkers completed the topping off by proudly unfurling a giant Canadian flag. As it flew from the highest steel, it signalled a history-making achievement, both in Canadian structural steel construction, and in the redevelopment of downtown Toronto.

Mould Drying Ovens

Two new car-type drying ovens installed in Canron Foundry Division's Burlington Street plant in Hamilton, Ontario, are providing noteworthy improvements in productivity and quality of ingot mould castings. Each oven, 20 ft. wide by 43 ft. long and 15 ft. high, has its own motor-driven car. Capacity per car is 200 tons of moulds, an average of 10 to the car. Drying time in the ovens is nine hours at controlled temperatures of 650°F; fuel is natural gas with a rating of 8 million BTU/hr. Since these ovens replaced the old individual burner stations, the ingot mould castings have yielded greater dimensional stability and better surface finish.



New Electromatic Tamper For Joint Peaking Rails

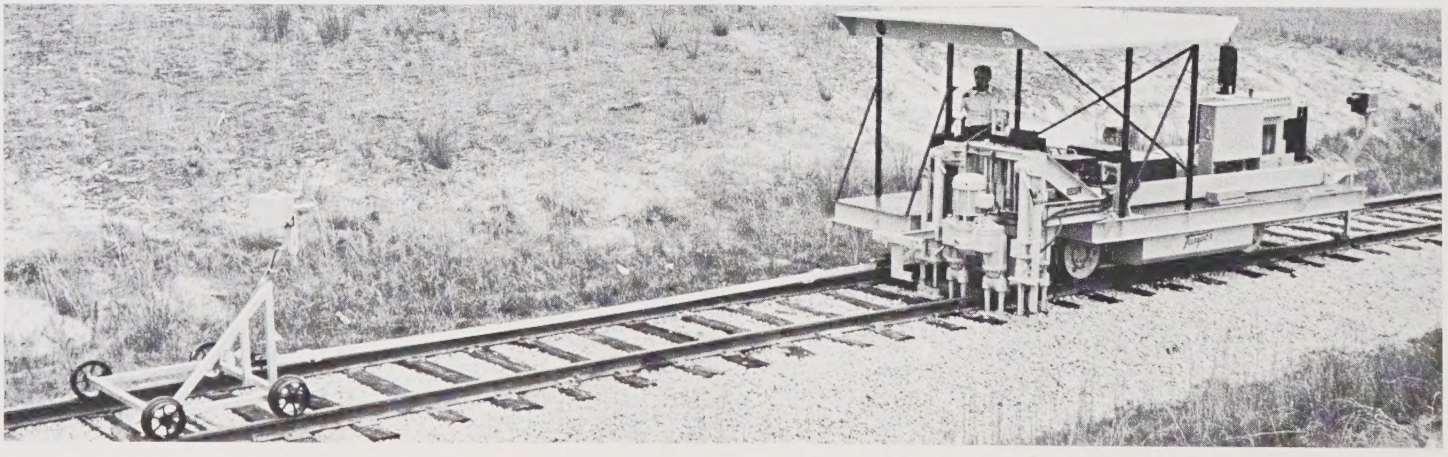
Railway maintenance men are taking a lively interest in the latest Electromatic Tamper from the Tamper, Inc. plant in Columbia, South Carolina. Model JP, as it is called, is designed to be the most economical one-man joint peak tamper on the market.

With high-speed trains and heavy traffic, railway tracks tend to sag at the joints. If not corrected, the depressions may damage the rails beyond recovery.

Model JP employs an infra-beam system that is sensitive to variations of 1/16" or even less. When a sagging joint is detected, the machine jacks up the rail and the tie to the right height and tamps the ballast. An elaborate system of controls ensures that all joints are tamped to an equal height, regardless of ballast conditions.

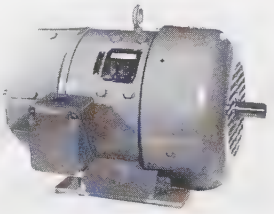
Elevations on curves, where the outside rail bears the greater strain, can be controlled by the foreman, using a level board. To retain the correct levels, the operator jacks and tamps every fifth or sixth tie, then tamps all the remaining ties.

Set-up time for Model JP is less than a minute, and the production rate is better than 75 joints per hour.



Pollution-Free

Quiet, smooth-running, fast-running and economical, 151 electric trackless trolley buses are going into service for the Toronto Transit Commission. New bodies were built for the TTC by Western Flyer Coach Limited of Winnipeg, while the TTC overhauled the 600-volt traction equipment from its fleet of discarded trolley buses, and installed them in the new bodies. Auxiliary electric motors from Canron's Electrical Division in Lachine, Quebec, drive AC alternators and fans for the buses, and provide power for lighting and ventilating. By mid-June, 55 of the buses were at work for the TTC, and others were being added at the rate of two a week. Two American cities — Boston and Dayton, Ohio — are testing similar vehicles, rebuilt or overhauled by the TTC.



"Tamper" electric motor (7½ HP) drives an A.C. alternator and fan — providing auxiliairy power for bus lighting and ventilation.

St. Thomas Foundry Swears off Smoking

Pollution control for a plant as large and as busy as Canron's Foundry Division at St. Thomas, Ontario, is by no means a simple matter of shutting down the plant for a day or so, allocating a couple of thousand dollars and installing some kind of filter.

Cost of the St. Thomas anti-pollution system, in fact, was $335,000 — high enough to put many a smaller foundry operation out of business. Expenses weren't the only problem. It wouldn't have been practical to close the whole plant while the devices were being installed, since this would have meant lengthy layoffs, disrupted production schedules, and perhaps some lost or broken contracts.

To keep the foundry running as smoothly as possible while the complicated anti-pollution system was going into action, the project was carried out in three phases. These took 12 months to complete.

Before controls, the chief offender was the foundry's cupola furnace, through which molten metal passes at the rate of 20 tons an hour. At peak times, this cupola was capable of sending 300 lbs, of particles every hour into the air. Today, controls have reduced these emissions by better than 99 per cent.

For a plant such as the St. Thomas foundry, it takes more than one device to control emissions. First, you need stack-burners to burn off the combustibles; then you need a water-quench system to cool the gases down to 500°F, at which point the larger particles will drop out; and finally, you need what they call a "baghouse"; in this case, one which holds 540 fibreglass bags to collect the fine particles — so small they resemble talcum powder.

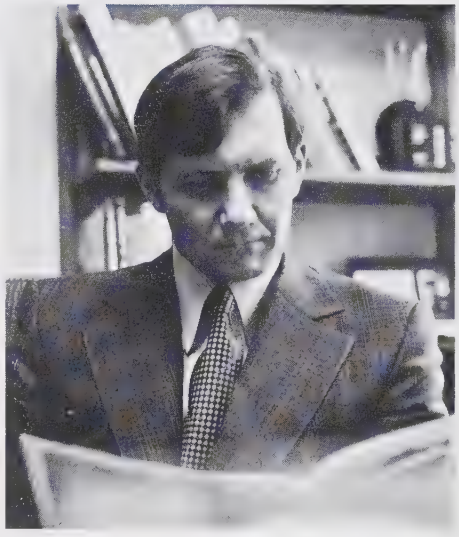
The "before-and-after" pictures below show the dramatic difference achieved by the control system. Since the end of March, when the anti-pollution system went into full operation, the devices have worked without difficulties of any kind.

Canron Structural Group

One in a series of feature articles about Canron's diversified activities, by product groups.

Canron first entered the structural steel business in 1954 with the acquisition of a structural steel firm in eastern Canada. By 1958, through other acquisitions, the operations extended coast-to-coast. Today, Canron has the second largest fabrication and erection organization in Canada, with engineering, technical and manufacturing resources that have gained an excellent reputation for the company.

Canron's Structural group has about 1500 employees and is comprised of two geographic divisions, Eastern Structural and Western Bridge with plants at Ottawa, Rexdale (Toronto), Edmonton and Vancouver. Each division is headed by a General Manager who reports to the Group Vice-President, Structural Operations. Last year, the structural group accounted for approximately 20 per cent of the company's total sales of $177,000,000.



Bill Cullens, Group Vice-President, Structural Operations and General Manager, Toronto.

Joe Iwanicki, Divisional Controller; Norm Dicki Assistant General Manager, Toronto.

Wide Range of Achievements

Among the Group's recent and diversified jobs were the 57-storey Commerce Court West in Toronto; the giant gantry cranes at the new container ports in Vancouver and Halifax; a headframe towering 200 ft. over the world's largest potash mine in Saskatchewan; airport steelwork at Toronto and Edmonton; and a cyclotron support structure, part of a major nuclear physics research facility at Vancouver.

The Canron Structural Group has completed scores of other projects, all the way across Canada. Canron's high-rise structures are landmarks in almost every major Canadian city, while Canron bridges — including mechanical lift bridges — serve the public from coast-to-coast.

Wayne Baigent, Manager of Engineering, Toronto.

Joe Csercsics, Construction Manager; Andy Hubert, District Sales Manager; Stan Wilkinson, Purchasing Agent; Tom McBarron, Plant Manager; Jack Perrin, Chief Estimator; Gord Armstrong, Contract Manager, Toronto.

Microwave relay towers are also designed and fabricated by the Structural Group, as well as radio masts and TV towers for communication companies. From Kitimat, B.C., Canron hydro transmission towers carry power lines over the Rockies; and it was the Structural Group who put in the massive radial gates which

control water levels for the South Saskatchewan River dam.

Canron's Structural Group has also been a contributor to education, by reducing the cost of building schools. In a consortium arrangement with Anthes Steel Products, the Group won a bidding competition for the structural components of an open-system building program sponsored by the Metropolitan Toronto School Board's Study of Educational Facilities (SEF).

The final SEF design brought structural steel costs, erected, down to $2.26 per sq. ft., with a total building cost of $19.10 per sq. ft. (1967). This, remarkably, was $1.75 below the school board's target-figure. The design resulted in contracts for 28 schools in Toronto, and for several others in both Canada and the United States.

The Group pioneered on-site welding techniques in the erection of steel for the Toronto Hospital for Sick Children, followed by the design and erection of the Sun Life Building in Toronto — Canada's first fully rigid all-welded structure. Canron was also the first in Canada to adapt Metallic Inert Gas welding equipment and techniques to structural steel shop work.

In British Columbia, Canron applied thin shell equations to structural steel grids to design and produce the 225 ft. dome roof for the Pacific National Exhibition's Livestock Building — believed to be the lightest dome structure of its size and applied load in the world.

cont'd►

Bruce Jackson, Operations Manager; Harry Warner, General Manager; Rex Heeney, General Sales Manager, Vancouver.

Vern Tickell, Plant Manager, Vancouver.

Gordon Ward-Hall, Construction Manager, Vancouver.

Irvine Nitkin, Chief Engineer, Vancouver.

Contracts in Other Countries

A number of Structural's recent export contracts have included: a bridge in Cameroon, Africa, and a dozen small bridges in Jamaica; the largest and most luxurious hotel and a Bacardi distillery in Bermuda; a nickel-ore mill in the Dominican Republic; and a thermal electric power plant at Botswana, Africa, on the rim of the Kalahari Desert.

Competing against spirited bidding by United States firms, Canron's Structural Group won two multi-million dollar contracts covering 21,600 tons of fabricated steel for interchanges at the Fremont bridge in Oregon (Canron News, June 1970). Canron used computers to work out the intricate calculations needed to prefabricate more than seven miles of precision-made girders for the job. Another contract in the United States, worth $5 million, recently went to Structural for the supply and erection of steel on a new convention centre in Niagara Falls, N.Y.

Container Crane

Railway Lift Bridge

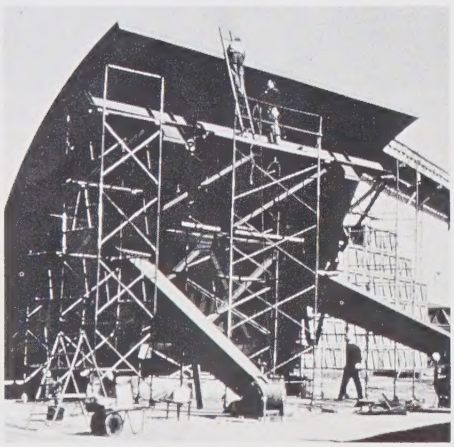
Skilled Managers

Obviously, it takes more than engineering and technical expertise to carry out such diverse projects. Over the years, as Canron made acquisitions, the Structural Group was adding managerial skills to its resources. There has been an infusion of dynamic, capable and imaginative young men; and altogether, the Group has achieved an excellent reputation for highly competitive — yet profitable — bidding on a wide range of structural jobs.

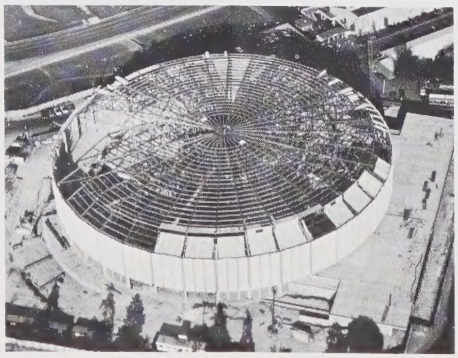
Under Bill Cullens, Group Vice-President, Structural Operations, a

Vancouver Plant

200 ft. high Mine Headframe



Radial Dam Gate



Lightweight Dome Roof

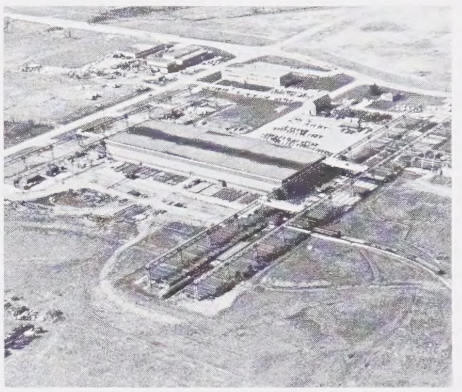
council approach to management is used. Each department head has a high degree of autonomy and discretionary power — and he bears a corresponding degree of responsibility for his department's performance.

Departments, however, have no boundaries when help is needed. This reciprocal aid, with each line manager involved in the total operation — exchanging advice, or even functions — has helped shape the Group into a smoothly-running team.

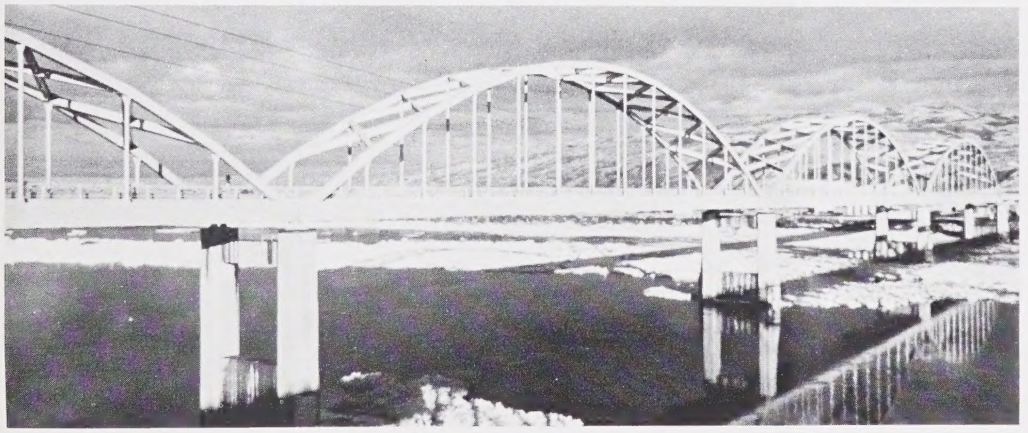
Before the Group enters a bid for a new contract, the sales department — which watches for new tenders — evaluates the opportunity, and makes sure that Canron is invited to bid. If a bid is to be entered, sales staffers collect the drawings, which then go to the estimating department, where data from shop, purchasing and drafting departments are coordinated and collated. If the package is approved, and if Canron wins the contract, the sales engineer who put the bid package together is given total responsibility for the project; he must keep costs in line, coordinate all departments, and see that fabrication, shipping and erection deadlines are met. Finally, he is responsible for the overall profitability of the project.

With a long string of successes behind them members of the Group are undismayed by such requirements. Around the offices and plants, there is an air of competence, quiet optimism and confidence in the future. And that's the spirit of the Structural Group.

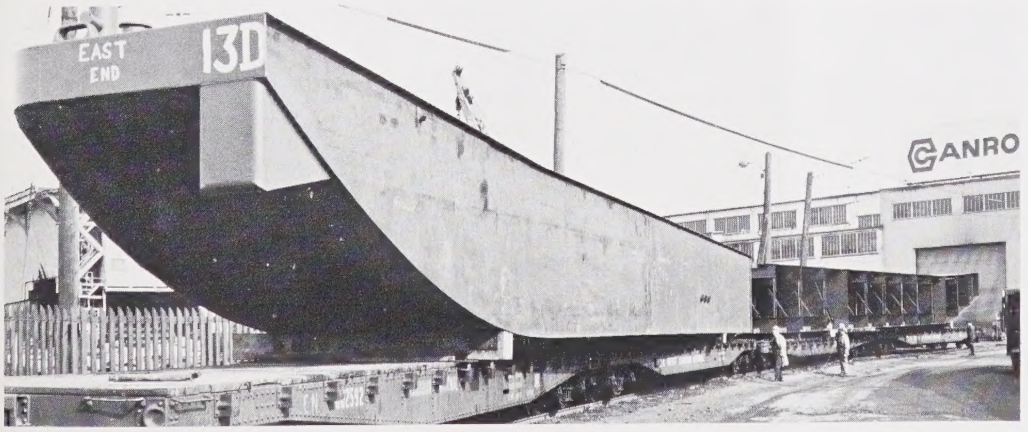
Plate Girder Bridge



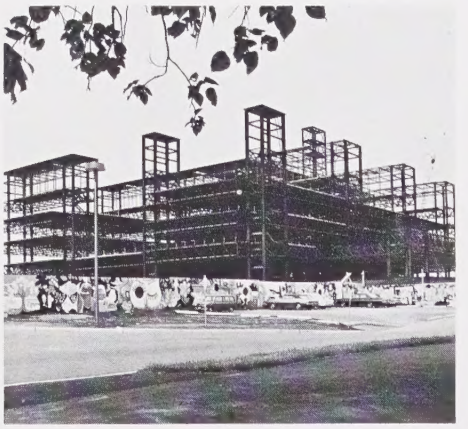
Toronto Plant



Arch Bridge



Steel Barges



Health Sciences Centre

Canron's new compression type fire hydrant has a simplified design with many features, built in a streamlined body. The standard hydrant is painted the familiar fire red with aluminum bonnet and nozzle caps, but is also available in other colours on request.

Canron Turns It on With New Hydrants

Fire hydrants, except to professional and volunteer firemen, city engineers and purchasing agents, pets and policemen, have for decades represented little more than a taken-for-granted little pillar of our scene.

Canron, for one, has been making these faithful and sturdy performers for more than 50 years, and in that time, their appearance hasn't been greatly changed.

That is, until lately. These days, a handsome new hydrant from Canron's Pipe Division — with many hidden advantages — is mushrooming gracefully in a number of Canadian municipalities.

It's called the Canron CT (compression type) fire hydrant. Designed to meet or exceed specifications of the Canadian Standards Association, it has been tested and approved by the Underwriters' Laboratories of Canada for a working pressure of 150 lbs./sq. inch.

Apart from surpassing basic requirements, the CT fire hydrant incorporates many technical advances.

One feature which appeals to city engineers (and accountants) is a "breakaway" flange which is designed to minimize impact damage. A bad hand on a snowplow can wreck any hydrant ever built, to be sure, but if he does it to a Canron CT fire hydrant it should ordinarily mean that only two parts — a flange and coupling — are going to need replacement.

If the hydrant is damaged, a valve closes and prevents flooding. For normal maintenance, all parts are readily accessible, and so is the lubrication opening.

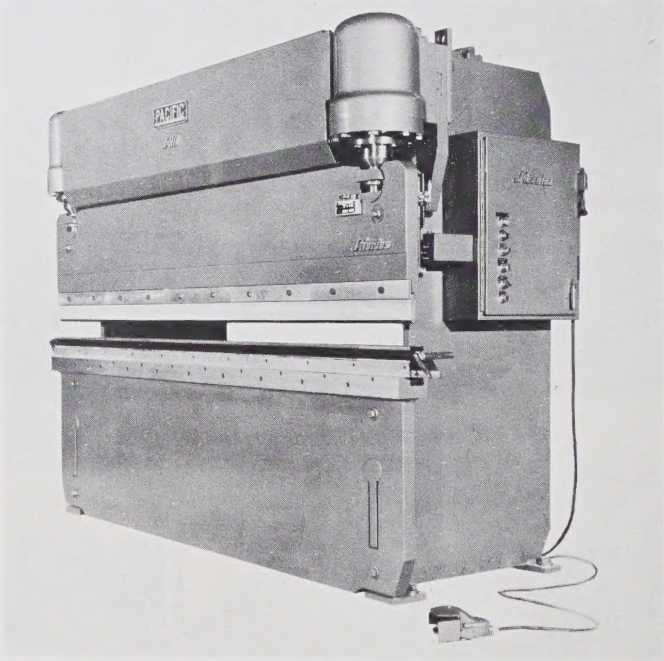
Altogether, Canron designers have built in about a dozen special features which will appeal to water departments — not counting the improved appearance.

Challenger

With its new J-Series of hydraulic press brakes, Pacific Press & Shear Corporation, Inc., is making a powerful bid to compete in a segment of the market traditionally dominated by mechanical machines.

Until now, the mechanical machines have had greater speeds than the hydraulics, but the Pacific J-Series has taken over this advantage. Many other design features, in fact, give the J-Series a wide measure of superiority in the volume production market. Set-up time for the new hydraulic press brakes, for example, is counted in minutes or seconds — compared with the hours needed to bring a mechanical into production. For the J-Series, change-overs from one job to another can accordingly be made frequently and easily, with next to no "down-time".

Pacific Press & Shear, a Canron subsidiary, has engineered the J-Series for volume manufacture at competitive prices in capacities of 40, 55, 75, 90, 110, 135 and 165 tons.



CANRON LIMITED

DIVISIONS: Eastern Structural, Electrical, Foundry, Mechanical, Pipe, Plastic Pipe, Railway, Western Bridge.
SUBSIDIARIES: Extruded Plastic Products Limited, Matisa Matériel Industriel S.A., Switzerland, Northern Resins, Limited, Pacific Press & Shear Corp., U.S.A., Railway & Power Engineering Corporation, Tamper, Inc., U.S.A., Tamper (Australia) Pty., Ltd., The Wabi Iron Works, Limited.